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June 29, 1993

Mr. William Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: PR Docket No. 93-61

Gentlemen:

Enclosed for filing are an original and four copies of the "Comments" of KNOGO Corporation, VTech Communications, and HTS™ in the above-referenced proceeding.

Yours very sincerely,

Lawrence J. Movshin

Enclosures

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Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C. 20554

In the Matter of	)	PR Docket No. 93-61
	)	
Amendment of Part 90 of the	)	RM-8013
Commission's rules to Adopt	)	
Regulations for Automatic	)	
Vehicle Monitoring Systems	)	

COMMENTS OF KNOGO CORPORATION, VTECH COMMUNICATIONS AND HTS

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Dated: June 29, 1993

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SUMMARY

KNOGO CORPORATION ("KNOGO"), VTECH COMMUNICATIONS ("VTech"), AND HTS™ (collectively sometimes the "Commenters") hereby comment on the changes to Parts 2 and 90 of the Commission's Rules proposed in the **Notice of Proposed Rule Making** (FCC 93-141, released April 9, 1993)(the "NPRM") in the above-referenced proceeding.

The commenters have been working on the development of products in the 902-928 MHz band for several years. To the extent that the viability of the Part 15 allocations for spread spectrum technology are being threatened in this proceeding, they has a substantial interest in the proposals.

The impetus for this rulemaking came not because of an overwhelming growth of AVM networks, but because the AVM rules needed to be made "permanent" in order to facilitate the financing of further expansion of these services. The relatively limited nature of the initial request is paled by the more substantive changes that have been proposed by the Commission in the NPRM. The record does not support the need for such an expansion in this particular band, and the NPRM proposal fails to reflect the significant adverse effects that such action would have on current and future use of this band by users of Part 15 devices and systems that provide no lesser public benefits. Before the Commission virtually reallocates 16 megahertz of spectrum to such services, a far more substantial showing of need must be made. Nor is it clear that any demand that is ultimately documented needs to be accommodated in a separate radio service.

There are numerous wireless alternatives in existence or under consideration which are almost certain to embrace these types of location and monitoring services. Any demand for locator and monitoring services can be satisfied in many other portions of the radio spectrum.

While there has been little growth in the development of AVM systems until quite recently, the Commission has seen the development of a growing number of low power, lower cost unlicensed devices and systems utilizing advanced technologies under its more liberal Part 15 regulatory scheme. The NPRM provides a reasonable opportunity for the Commission to review and refine its policies toward Part 15 devices. In particular, this proceeding allows the Commission to recognize the substantial public interest benefits derived from devices operating under Part 15 so that policies can be developed which better accommodate competing uses of the spectrum to meet the public interest.

It should no longer be the rule that licensed devices are protected and the unlicensed products must give way when new radio service allocations or expansions are being considered. Rather, the Commission should give Part 15 uses of spectrum fair consideration and weight in determining the suitability of spectrum for additional congestion, from licensed or unlicensed services. The Commission can properly conclude here that non-AVM uses can be accommodated in other parts of the spectrum under consideration for a wide array of non-voice messaging services.

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	)	
	)	

To: The Commission

COMMENTS OF KNOGO CORPORATION, VTECH COMMUNICATIONS AND HTS

KNOGO CORPORATION ("KNOGO"), VTECH COMMUNICATIONS ("VTech"), AND HTS™ (collectively sometimes the "Commenters"), by their attorneys, and pursuant to Section 1.415 of the Commission's Rules, hereby comment on the changes to Parts 2 and 90 of the Commission's Rules proposed in the **Notice of Proposed Rule Making** (FCC 93-141, released April 9, 1993)(the "NPRM") in the above-referenced proceeding.

The Commission has proposed new rules to promote the growth of Automatic Vehicle Monitoring (AVM) systems and to accommodate the location of all objects, animate and inanimate by the creation of a new Location and Monitoring Service ("LMS") in the 902-928 MHz band. KNOGO, VTech and HTS™ oppose the proposed expansion as it will severely impact and curtail the effective use of this band by Part 15 devices, generally, and these companies' current and anticipated products, specifically. A more limited change to the rules designed to give a permanent

status to the existing AVM regulations should instead be adopted in this proceeding. [1/]

I. BACKGROUND.

A. The Commenters' Interest

KNOGO has been a leading manufacturer of anti-pilferage devices for almost three decades, interested in the development of wireless technology for this industry, and a regular participant in FCC rulemakings designed to further the use of wireless architectures in this arena.

KNOGO's systems are virtually all designed to operate under Part 15 of the Commission's rules. While they have in the past been designed primarily to operate in the bands below 25 MHz, newer advances, and a desire to make the tags associated with the anti-pilferage systems as small and unobtrusive as possible have led to the use of the higher bands made available for such low power systems over the years. Its future success is therefore

One of the first manufacturers to certify and introduce a digital phone at 900, the "Tropez", VTech has recently announced the introduction of a spread spectrum cordless phone operating in the 902-928 MHz band, one of the first truly "consumer" uses of this exciting technology. Indeed, the VTech technology is a reasonable precedent to many of the likely applications for PCS technology in the near future.

HTS™ is a leading manufacturer of radio control technology for satellite receivers and home entertainment systems. It currently markets devices operating in the 915 MHz band which would be severely impacted by the proliferation of LMS systems in the 902-928 MHz band.

B. The History of the AVM Rules

AVM systems have operated in the 902-928 MHz band for nearly twenty years under Section 90.239 and its predecessor provisions, the so-called "interim" rules adopted in 1974 [2/]. When these rules were adopted, the Commission recognized that the state of vehicle location technology had progressed dramatically since 1968, when the agency had initiated its consideration of AVM technology. Nevertheless, it decided that given the early stages of development, the rule changes would be only interim provisions, to "allow for continued technological advancements in the different techniques involved." [3/]

2/ Report and Order, Docket 18302, 30 RR2d 1665 (1974).

3/ Id., at para 5, p. 1667.

In addition to liberalizing the rules for such systems operating in the land mobile allocation below 512 MHz, the Commission chose to create a focused allocation for AVM in the 902-928 MHz bands. The agency expressed its hope that "with the impetus of these interim provisions, the next decade should see vehicle location methods as an essential adjunct to the successful operation of many land mobile radio communications systems."[4/] In fact, however, over the next fifteen years very limited AVM system developmental activity took place in the 902-928 MHz. Indeed, the impetus for this rulemaking came not because of an overwhelming growth of AVM networks, but because one of the few companies engaged in the development of AVM systems, North American Teletrac and Location Technologies, Inc. (Teletrac) urged that after some 18 years, the AVM rules needed to be made "permanent" in order to facilitate the financing of further expansion of these services. Not surprisingly, the long-term nature of the "interim" status of the rules made venture capitalists and customers alike somewhat nervous about making lengthy commitments to such systems. The relatively limited

Commission has seen the development of a growing number of low power unlicensed devices and systems using advanced technologies developed under its more liberal Part 15 regulatory scheme. To accommodate such advances, the Commission decided to encourage the use of several otherwise underutilized ISM bands, including the 902-928 MHz band, for advanced Part 15 applications. Starting with the 1985 announcement of new rules for spread spectrum products in Docket No. 81-413[5/], and continuing through the 1989 revision of Part 15 in Gen Docket 87-389[6/], the Commission took steps to encourage manufacturers and designers to use these bands to develop new technologies and services.

The agency recognized that liberalized rules governing the use of these bands would have a significant impact on development of low-cost, low powered, advanced-technology devices for the consuming public. For example, one of the most innovative proposals in Docket 87-389 was one to permit Part 15 devices to operate in the 902-928 MHz band virtually without restriction on channelization, bandwidth or type of operation (the primary restriction being on the field strength of emissions). As the Commission boasted in making this proposal,

> "we expect this proposal to foster entire new categories of Part 15 devices and to provide major benefits to both manufactures and consumers."[7/]

5/ Spread Sprectrum, 101 F.C.C. 2d 419 (1985)

6/ Revision of Part 15 (First Report & Order), 4 FCC Rcd 3493 (1989)

7/ Revision of Part 15 (NPRM), 2 FCC Rcd 6135 at 6137 (1987); see also Revision of Part 15 (First Report & Order), 4 FCC

(continued...)

As hoped and predicted, many new and innovative uses of the Part 15 allocation in the 902-928 MHz band have been developed over the last several years. As evidenced by the many systems and products manufactured and marketed by the Commenters over the last five years, these new developments include remote control, cordless telephony, anti-theft devices, local area networks, and other communications products that have been, or are, in the "wireless" arena, likely to become staples of consumer and business users.[8/]

[7/](...continued)
Rcd 3493, 3502 (1989). The Commission in a separate, but related action, contemporaneously took similar steps to spur the development of consumer-oriented spread spectrum applications, rewriting, in July, 1990, the rules governing such devices in several bands, including the 902-928 MHz band:

> The number and nature of possible applications for low power spread spectrum systems are increasing rapidly. We desire to encourage the development and implementation of this exciting new family of technologies.

Spread Spectrum Systems, 5 FCC Rcd 4123, 4124 (1990)

[8/] As noted by the Part 15 Coalition, it is estimated that the industry has invested more than $2 billion in devices operating under these new rules.

II. ARGUMENT

A. The AVM Rules Should Not Be Expanded, But Should Instead Be Limited At Most To Retaining The Status Quo.

In the NPRM, the Commission proposes to go well beyond the removal of the interim status of the AVM regulations that was requested by Teletrac and instead expands both the eligibility for such licenses and the permissible uses of the spectrum. Most significantly, the 902-928 MHz band would now be available for use not only for automatic vehicle monitoring but rather for "any non-voice signalling [] from and to radio units to make known the location of such units", and for the "transmission of status and instructional messages related to the units involved." Indeed, reflecting a view that "the public benefit from position location

monitor or locate any object, animate or inanimate, generally, not only by businesses and local governments, but also by individuals; and (b) that such demands must be accommodated as part of an AVM/LMS radio service. There is not enough evidence before the Commission that could reasonable support such premises.

It must be stressed that AVM technology has existed for almost two decades, with little in the way of substantial advancement until a few years ago. Before the Commission virtually reallocates 16 megahertz of valuable spectrum to such services, and, no less importantly, effectively denies the use of the remaining 10 megahertz to other systems developers, a far more substantial showing of need must be made. Certainly whether spectrum in the 900 MHz range should be handed over for these types of expanded AVM services is clearly a matter for close scrutiny.

Nor is it clear that any demand that is documented needs to be accommodated in a separate radio service. There are numerous wireless alternatives in existence or under consideration which are almost certain to embrace these types of location and monitoring services. Mobile satellite services are being developed which will provide region and nationwide radio location services, which may be adaptable to the types of localized offerings under consideration here. The capacity of cellular and SMR systems are being expanded with the use of digital technologies that will encourage a variety of non-voice applications -- including, presumably, location and monitoring

services, utilizing both wideband and narrowband technologies operating in the 900 MHz band.

Just last week the Commission allocated up to three megahertz in other parts of the 900 MHz band for so-called Narrowband-PCS services, in a docket which was initially adopted to consider spectrum requirements for advanced messaging services.[9/] It can surely be anticipated, given the number of licenses that the Commission proposes to allocate in that proceeding, that many if not most of the narrowband alternatives that might otherwise appear in the proposed LMS will be far better served in the Narrowband PCS spectrum in which there are currently NO competing users.

A similar argument can be made for delaying consideration of the anticipated location and monitoring services that might develop from wideband AVM technology until the further development of wideband PCS rules is completed in the Fall. The Commission has proposed to allocate up to 200 MHz for such wideband, licensed systems in the 1.9 GHz band (with up to another 200 MHz currently being considered for reassignment from the Government spectrum to Non-Government uses). If there is, indeed, a need for new and innovative Location and Monitoring Services, the preferred place to establish them may well be in the proceeding which is considering the overall PCS service, and

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9/ See, e.g., News Release, June 25, 1993, "FCC Amends Rules to Establish New Narrowband Personal Communications Services - Gen Docket No. 90-314, ET Docket No 92-100"

not in AVM spectrum that has only been used for the highly specialized and far more limited vehicle monitoring activities.

Ultimately, the Commission must decide first whether there is a need to provide for any expansion of the existing services, and only then whether any such expansion should take place in an already crowded portion of the radio spectrum. In KNOGO's, VTech's and HTS' view, the risk of severe congestion in this band is substantial, while there is better opportunity to meet the demand for locator services in many other portions of the radio spectrum.

2. The Commission Should Recognize the Rights of Part 15 Devices to Reasonable Co-existence In This Band.

This proceeding highlights the inconsistent messages that the Commission has been sending to the Part 15 community. On the one hand, new frequencies are being made available for use under Part 15, with a note of substantial hope and encouragement that the new frequencies will provide fertile ground for the development of new and exciting technological advances. Yet just when those advances are starting to reach fruition through the efforts of companies like KNOGO, VTech, and HTS, proposals like those embodied in the NPRM are made that have a chilling effect on the usefulness of the new frequencies. Indeed, the instant proposal raises reasonable fears for the Commenters that within the established hierarchy of use, the congestion inevitable from the proposed expansion of AVM/LMS licensed services will quickly obsolete existing systems and virtually wipe out the benefits of concepts still in the developmental stages.

Because of their receiver sensitivities, it is almost certain that some number of LMS systems will be subject to or the

Part 15 devices, it is really not feasible to assume that interference can be resolved. Rules should instead be designed to generally provide for its avoidance, as Part 15 does by providing power levels that generally avoid inter-Part 15 device interference. In this case, that means limiting the availability of the band for AVM systems to those now eligible.

On the other hand, the NPRM does provide a reasonable starting point for the Commission to review and refine its policies toward Part 15 devices. In particular, this proceeding allows the Commission to recognize the substantial public interest benefits derived from devices operating under Part 15 so that policies can be developed which better accommodate competing uses of the spectrum to meet the public interest.

Manufacturers who take advantage of the Part 15 regulations to significantly increase spectrum utilization and efficiency should no longer be forced to do so solely at the pleasure of those who are using the spectrum on a licensed basis. To that end, it should no longer be the rule that <u>licensed</u> devices are protected and the <u>unlicensed</u> products must give way when new radio services or allocations are considered. Instead, Part 15 uses should be given fair consideration in determining the appropriateness of any particular frequency band for such a new allocation or use.

This proceeding is an appropriate forum now to consider policies that balance spectrum utilization and efficiencies with interference protection requirements. The Commission can properly conclude that non-AVM concepts can be accommodated in

other parts of the spectrum under consideration for a wide array of non-voice messaging services.

III. CONCLUSION

The Commission made the right public policy decisions in 1989 when it initiated rules designed to encourage the development of Part 15 devices in the then-underutilized ISM bands, including the 902-928 MHz band. The benefits of those decisions are already being seen in the substantial proliferation of low-power, spectrally efficient devices, for commercial and

expansion of the uses of the band or eligibility under these rules is necessary or appropriate at this time.

Respectfully submitted,

KNOGO CORPORATION, VTECH COMMUNICATIONS AND HTS™

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